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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/568,688 | 02/17/2006 | Giuseppe Covino | 09952002000000 | 2765 |

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| EXAMINER |
|---|
| FAN, HUA |

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| 4134 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/568,688 | COVINO ET AL. |
| | Examiner | Art Unit | |
| | HUA FAN | 4134 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☐ Responsive to communication(s) filed on \_\_\_\_\_.
2a)☐ This action is **FINAL**.    2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) <u>37-72</u> is/are pending in the application.
    4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
5)☐ Claim(s) \_\_\_\_\_ is/are allowed.
6)☒ Claim(s) <u>37-72</u> is/are rejected.
7)☐ Claim(s) \_\_\_\_\_ is/are objected to.
8)☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>17 February 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All  b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>11/27/06; 2/17/06</u>.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. \_\_\_\_\_.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1.      35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 72 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 72 defines a computer program product embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex

IV). That is, the scope of the presently claimed a computer program product can range from

paper on which the program is written, to a program simply contemplated and memorized by a

person. Note "capable of being loaded in the memory" does not mean "recorded on computer-

readable medium".

## Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3. Claim 72 is drafted to include a reference to more than one statutory class of invention.

A single claim which claims both an apparatus and the method steps of using the apparatus is

indefinite under 35 U.S.C. 112, second paragraph.

### Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 37-41, 43-47, 50-58, 60-64, 67-70 rejected under 35 U.S.C. 102(b) as anticipated

by US publication 2002/0032769 by Barkai et al.

As to claim 37, Barkai et al. disclose a system architecture for managing a

telecommunication network (abstract) comprising network equipment (figure 3, components 33-

34), said equipment having associated control interfaces (figure 5; interface between NEs and

warehouse tier 52), the architecture comprising: a base layer (figure 3, 5: warehouse tier 52)

proxying said interfaces and decoupling said interfaces from management functions ([0057] –

[0067]); and a support layer (figure 4: agent tier 50) comprised of a community of agents co-

ordinating operation of said base layer in order to support distributed management functionalities

(figure 3, 5; [0085]), said base layer and said support layer comprising separated superposed

layers in said architecture (figure 3, 5).

As to claim 38, Barkai et al. discloses the architecture of claim 37, wherein said

distributed functionalities include FCAPS (Fault ([0049]), Configuration ([0051]-[0052];[0034]-

[0036]; [0054]-[0055]; [0031]; [0045]; [0048]), Accounting ([0031]: billing), Performance

([0031]; [0036]-[0037]; [0045]), Security (claim 3)) functionalities.

As to claim 39, Barkai et al. discloses the architecture of claim 37, wherein said base

layer comprises: a sub-layer of protocol adapters for interfacing a set of network equipment

offering a given protocol (figure 5: component 75, "SNMP collector"); and a sub-layer of

resource proxy modules (figure 5: "SNMP collector"), each said proxy module providing a

representation of the configuration of given network equipment according to a defined

information model (figure 5, "Instrumentation Manager"; "SNMP collector"; [0048]; [0057]-

[0065]; [0063], note: SNMP uses MIB (management information base)).

As to claim 40, Barkai et al. discloses the architecture of claim 39, wherein said resource

proxy modules are configured for aligning said representation to the network of given network

equipment by at least one operation selected from the group of: performing all the management

actions on said network by invoking operation through at least one associate protocol adapter

(figure 5: 'instrumentation manager"; "SNMP collector"; [0063]); receiving at said resource

proxy modules all the notifications sent by said network equipment (figure 5: "SNMP collector" by SNMP commands such as "trap" [0063]); and performing a periodical verification of alignment between the representation of the network equipment and said network equipment (figure 5: "SNMP collector" by SNMP commands, such as "get"; [0063]).

As to claim 41, Barkai et al. discloses the architecture of claim 40, wherein said resource proxy modules are configured for enrichment with element manager information ([0063]).

As to claim 43, Barkai et al. disclose the architecture of claim 40, wherein said resource proxy modules are configured for interacting directly with one another in an interworking relationship (figure 5; [0063]).

As to claim 44, Barkai et al. discloses the architecture of claim 37, wherein said agents in said community are configured for running vendor and technology independent services ([0060]).

As to claim 45, Barkai et al. discloses the architecture of claim 37, comprising at least one manager application ([0049] – [0050]) configured for performing functions selected from the group of: managing distribution of processes between said base layer and said support layer; managing distribution of information models between said base layer and said support layer ([0049]-[0050]; [0054]); monitoring the state of the architecture on the basis of information provided by said agents in said community ([0049]-[0050]; [0054]; [0061]-[0062]); interacting with external systems ([0049]-[0050]; [0060]); and executing management processes ([0050]).

As to claim 46, Barkai et al. disclose the architecture of claim 45, wherein said at least one manager application comprises a separated, additional upper layer in said architecture ([0049]-[0050]).

As to claim 47, Barkai et al. discloses the architecture of claim 45, wherein said at least one manager application is at least partly integrated to said support layer ([0054]).

As to claim 50, Barkai et al. discloses the architecture of claim 37, comprising agents hosted on different machines, said agents being movable among different machines ([0059]: "distributed repository").

As to claim 51, Barkai et al. discloses the architecture of claim 37, wherein said layers in said architecture include components adapted to perform respective functions based on respective instructions information provided to them ([0055]) and a data base is provided storing said instruction information, the architecture being arranged for distributing said instruction information from said data base to said components ([0058]).

As to claim 52, Barkai et al. discloses the architecture of claim 51, wherein said instruction information comprises at least one of: process definitions such as workflows and rules; and data model definitions ([0055]).

As to claim 53, Barkai et al. discloses the architecture of claim 51, comprising at least one manager application configured for managing distribution of information models between said base layer and said support layer, said data base being associated with said at least one manager application ([0054]; [0058]).

Claims (54-58, 60-64, 67-70) are method claims corresponding to system claims (37-41, 43-47, 50-53). Therefore they have been analyzed and rejected based upon system claims respectively.

### Claim Rejections - 35 USC § 103

6.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.      Claims 42, 48-49, 59, 65-66, 71-72 rejected under 35 U.S.C. 103(a) as unpatentable over

US publication 2002/0032769 by Barkai et al., in view of EP 1150454 by Barkai et al.

As to claim 42, Barkai et al (US) does not expressly disclose the architecture of claim 40,

wherein said resource proxy modules are configured for running processes using a process

executor. Barkai et al (EP) discloses base layer (device components) includes process executor

(figure 3; [0043]-[0044]).

At the time of invention, it would have been obvious to a person of ordinary skill in the

art to combine the method disclosed by Barkai et al (US) with the method disclosed by Barkai et

al (EP) regarding base layer includes process executor. The suggestion/motivation of the

combination would have been to provide a system-wide top-down flow with each DC

performing its independent computations which collectively achieve the external request (Barkai

et al (EP), [0044], lines 4-7).

As to claim 48, Barkai et al (US) does not expressly disclose the architecture of claim 37,

wherein all said layers in said architecture include process executors. Barkai et al (EP) discloses

base layer (device components) includes process executor (figure 3; [0043]-[0044]).

At the time of invention, it would have been obvious to a person of ordinary skill in the

art to combine the method disclosed by Barkai et al (US) with the method disclosed by Barkai et

al (EP) regarding base layer includes process executor. See similar motivation in claim 42 rejection.

As to claim 49, Barkai et al (US) does not expressly disclose the architecture of claim 48, wherein said process executors comprise at least one of a workflow, a rule engine and combinations thereof. Barkai et al (EP) discloses process executors comprise at least one of a workflow, a rule engine and combinations thereof (figure 3; [0043]-[0044]).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the method disclosed by Barkai et al (US) with the method disclosed by Barkai et al (EP) regarding process executors comprise at least one of a workflow, a rule engine and combinations thereof. See similar motivation in claim 48 rejection.

Claims (59, 65-66) are method claims corresponding to system claims (42, 48-49). Therefore they have been analyzed and rejected based upon system claims respectively.

As to claim 71, see similar rejection to claims 37 to 53.

As to claim 72, see similar rejection to claims 54 to 70.

## Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUA FAN whose telephone number is (571)270-5311. The examiner can normally be reached on M-F 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lunyi Lao can be reached on (571) 272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


/H. F./
Examiner, Art Unit 4134

/Lun-Yi Lao/
Supervisory Patent Examiner, Art Unit 4134